8515 (RECONNAISSANCE)

BULLE SANCE)

Diag. Cht. No. 526.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic (Reconnatissance)
issance)
Field NoEX-100-1-60 Office No. H-8515 & Ad. Wk.

LOCALITY

State

General locality Caribbean Sea

Locality Swan Islands

19.60 & 67

CHIEF OF PARTY

E. L. JONES and R. L. NEWSOM

LIBRARY & ARCHIVES

DATE June 17, 1960

USCOMM-DC 5087

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Project No. 08700

REGISTER No. H-8515 (Reconnaissance)

Field No. EX-100-1-60

State	West Indies
General locality	Caribbean Sea
Locality	Swan Island
Scale	1:100,000 Date of survey (11 - 19) March 1960 Original - 4 Dec. 1959
Instructions dated	Suppl 5 Jan. 1960
Vessel	USC&GS SHIP EXPLORER
Chief of party	Edmind L. Jones, CAPT, C&GS
Surveyed by	W.F. DEANE, H.D. REED; G. DeGROOT
Soundings taken by	Markonnes, graphic recorder, Markol 1808, EDO AND PDR
Fathograms scaled	by Personnel aboard the Ship EXPLORER
Fathograms checke	ed by Norfolk Processing Office
Protracted by	L.V. Evqn S
Soundings penciled	by L.V.Evans
Soundings in fa	athoms text at MLW MXXXV based on a velocity of sound of 800 fms /sec.
Remarks:	
	Hydrography controlled by sextent, radar, and astro-

DESCRIPTIVE REPORT to accompany Hydrographic Sheet (EX-100-1-60) (11-19) March 1960

HDR/law

Ship EXPLORER

Scale 1:100,000

Edmund L. Jones, Capt, USC&GS Commanding Officer

Project 08700

A. PROJECT:

Field work on this survey was accomplished under Original instructions for Project 08700, dated 4 December 1959. Paragraph 40(f) which called for Trackline Hydrography out to 1,000 fathoms, where practicable, in the area around Swan Islands.

B. SURVEY LIMITS AND DATES:

A 1:100,000 scale sheet was constructed for reconsissance, hydrograthy in the area of the Swan Islands, between Latitude 166-30' and 170-35', and Longtitude 830-00' and 840-15' and was assigned a field number as given above. Trackline hydrography from position 558A on 11 March 1960, through position 83%A on 19 March was plotted in this field sheet, and it is recommended that the smooth sheet include the same area and hydrography.

C. VESSELS AND EQUIPMENT:

All hydrography was accomplished from the ship EXPLORER. Soundings were obtained with 808 fathometer No. 59-20 and PDR fathometer No. 134. Velocity corrections will have to be computed and applied to the soundings. See velocity correction note and other pertenent data attached to this report. Velocity corrections omitted per Capt Ricketts

D. TIDE AND CURRENT STATIONS:

In accordance with instructions, no tide corrections were applied to the soundings.

E. SMOOTH SHEET:

It is expected that the projection will be constructed and the smooth sheet plotted in the Worfolk Processing Office.

Washington

I. CONTROL OF HYDROGRAPHY:

Where possible, visual fixes and bearings on shore objects on the Swan Islands were used for control. The visual control was supplemented by radar bearings and distances and astronomic sights. Loran is non-existant or unreliable in the area of the Survey.

L-M. COMPARISON WITH PRIOR SURVEYS AND CHARTS:

The only survey in the area covered are reconnaissance lines shown on the charts and in general the depths obtained on the trackline were in good agreement with those shown on the charts. An uncharted bank with at least depths of 15 fathoms, was discovered while penroute from Panama to Swan Islands on 11 March 1960, at Latitude 160-53'N, Longtitude 830-15'W approximately 87 miles NE of the Honduran Coast. This bank was in general depths of 300-900 fathoms. Further development of this bank was made during the course of the survey.

Z. TABULATION OF APPLICABLE DATA:

All field records applicable to this survey are included with the records for the EXPLORER's deep sea trackline and have been transfered to the Norfolk District Officer. Soundings and position data for the survey are recorded in Vols. VIII and IX of the track line records. With H-8521

HARRY D. REED JR. LCDR., USC&GS

Approved & Forwarded

EDMUND L. JONES

CAPTAIN, USC&GS

Commanding, Ship EXPLORER

TIDE NOTE

Tide Station:

Harber Bay,

Great Swan Island,

West Indies.

Latitude: Longitude: 17° 24' 18" 83° 56' 30"

Hydrographic Sheets: EX-10-1-60 and EX-100-1-60.

Plane of reference: Mean Low Water: (To be deter. by Wash. Office)

(Refer to Copy of letter attached). (Tide records to Wash., D.C., 5/25/60).

Area Covered:

Entire area of sheets, KI-10-1-60 and KI-100-1-60.

Time Correction:

Yene

Height Correction:

Hene

Remarks;

A tide record was obtained for the period (12-18) March, 1960. There is no record for the last day of hydrography (19 March) due to the tide staff and float-well being washed out by a storm during the night of (18 March).

A record of Mourly Heights is attached herewith.

No tide corrections were applied to sociodings on H-8515

POPER SOS

Ed. May, 1939

DEPARTMENT OF COMMERCE

A AMERICAN ORDERS SUREY TIDES: HOURLY HEIGHTS SWAN ISLANI) GREAT 75 Time Meridian: Height datum is Month and Day Hort-sontal Sum MARCH /2 16 17 18 Day of Series Hour Ped **Foot** Post .0 3.2 3.0 -1 .3 2.8 3 3.0 3 . 3 10 11 Noon 18 3.3 15 16 17 2.8 19 21 7.0 7,2 3.3 (5 Mean for month Sum for 7 days Divisor-(28d) 572; (20d) 506; (80d) 730; (81d) 744.

36

APPROVAL SHEET

Swan Island, West Indies Ship EXPLORER

All hydrography accomplished on sheet (Field No., EX-100-1-60) was under my immediate supervision.

The sounding volumes, descriptive report, and one boat sheet have been examined and are approved.

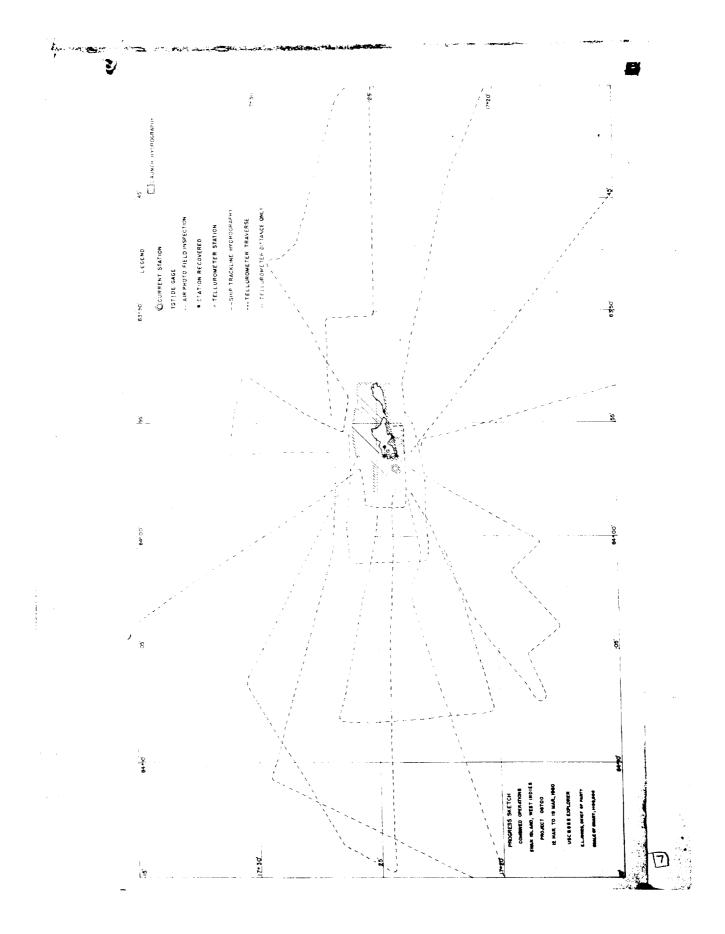
On 6 May 1960, all hydrographic records were transferred to the Norfolk District Office for the pletting of the smooth sheet.

Smooth plot made in Washington Office

Edmund L. Jones

CAPT, USC&GS

Commanding Ship EXPLORER



VELOCITY CORRECTIONS

Hydrographic Sheet EX-100-1-60

Vicinity Swan Islands, West Indies

11 - 19 March 1960

Ship EXPLORER

Project 08700

Velocity corrections are to be computed by the Norfolk Processing Office for the Swan Island inshere hydrography, by utilizing temperatures and salinities obtained at Ocenaographic Station No. 27, which is attached to Descriptive report for Sheet EX-10-1-60. Station No. 27 is located 50 miles north of Swan Island.

* These same corrections can be applied to soundings on the northern half of hydrographic sheet EX-100-1-60.

*It appears that temperature and salinities obtained at Oceanographic Station No. 26 should be used in computing velocity corrections for soundings on the southern half of sheet EX-100-1-60. Station No. 26 is located approximately 80 miles south of Swan Island. Paragraph 11 of the original instructions, dated 4 December 1959, states that velocity corrections will be computed and applied by the Washington Office.

* Velocity corrections not applied -- uncorrected depths penciled on smooth sheet per depths penciled on Smooth sheet per instructions from Capt. M.G. Ricketts, Chief, Nout. Ch. Div.

SHIP EXPLORER

102 West Olney Road
Norfolk 10, Virginia

Ser. 077 File 710 ELJ/law

17 May 1960

To:

The Director

U.S. Coast & Geodetic Survey

Department of Commerce Washington 25, D.C.

Subject:

Tide and Current observation - Swan Islands

Tide and current records for observations at Swan Island, oceanographic project 08700, are being furnished for processing.

Pole current observations, taken from the ship at anchor 3/4 mile off the southwest end of Great Swan Island for 32 hours on 12 and 13 March, was discontinued when the velocity was found not to exceed 0.4 knots.

A portable tide gage was in operation at Harbor Bay, Great Swan Island from 12 to 18 March. It is requested that the tide staff reading for mean low water be determined and this value be furnished the Norfolk District Processing Office.

EDMUND L. JONES CAPTAIN, USC&GS Commanding, Ship EXPLORER USCAGS SHIP EXPLORER 102 West Olney Road Horfolk 10, Virginia

> Ser. 078 File 703.3

19 May 1960

10:

Chief, Coastal Surveys Division U.S. Coast and Goodetic Survey Department of Commerce Eldg. Washington 25, D.C.

Subject:

Uncharted Bank in Carribbean.

This is in connection with the telephone call yesterday from CDR Woodcock.

The least depth on the bank in question was re-esaled from the radio reported depth on 20 March and is 15 fathems. This depth was found on 11 March 1960 while approaching Swan Islands at Latitude 16°53'M, Longitude 83°15'W. The bank is about 67 miles northeast of Mondurae and is in * surrounding depths of 300-900 fathems. It is about 5 % % miles in size and elengated in an east and west direction. The center of the bank as scaled from the beat shoot is at Latitude 16°55'M, Longitude 83°17'W.

Nagnotemeter observations indicate an ignosus rock outcropping. A core taken at the crest of the bank gave a four inch sample of dead coral. The recommended name in the radio dispatch was EXPLORER BANK.

About ten hours was spent on the ship development of this sheel. \times The 15 fms depth is at position 559A at 2152, 11 March 1960.

The positions given above are boat sheet positions controlled by star fixes. The least depth given is uncorrected.

Minund L. Jones GAPT, USONGS Commanding, Ship MCPLORIN

* Smooth sheet positions:
Center of table mount - 9 16°54' N

A 83°15 W

Two 15-1m depths found - 9 16° 53.8 9 16° 54.5

(uncorrected) 183° 09.3 183° 21.0

10

SHIP EXPLOSES. 102 Vest Olmer Road Norfolk 10, Virginia

SER. CEL Pile Wood

25 May 1960

tot

The Director

U.S. Coast & Geodstie Survey Department of Commerce Midg.

Washington 25, D.C.

Pubject

Request for Registry Number - Hydrographic Survey - Some Island

It is requested that this vessel be furnished registry numbers for the following hydrographic shoots:

(1) Pield No. KK-100-1-60 H-8515 (2) Pield No. KK-10-1-60 H-5516

Item (1) pertains to a 1:100,000 scale hydrographic shoot used in making a chip resenuelscence survey around Swen Island, West Indies.

Item (2) pertains to a 1:10,000 scale hydrographic shoot used in lound hydrography in visinity of Som Island.

The limits of Shoot (EL-200-1-60) are: Lat. 160_39' to 170 35' Long. 43" 60' to 64" 15"

The limits of Sheet (E5-10-1-60) are: Let. 170 22' to 170 27' Long. 83" 581 to 83" 591

> mand L. Johns CAPTAIN, UNCAGE Commending Officer

XO Field Op.O.

22/KEK B-1-KK

11 May 1960

Ter

Horfolk Bistriet Officer Coast and Geodetic Survey 102 West Clary Road Horfolk 10, Va.

Subject: Inshore surveys of Sum Islands

Reference: Telephone conversation between CAPT James and GER Woodcock on 10 May 1960.

Data for inshere surveys of Swan Islands will be transferred to you for smooth plotting prior to Ship EXPLOREN'S departure from Norfolk. Soundings were obtained using fathometers calibrated for a velocity of 800 fathoms per second, and bar-check data are insufficient to cover the entire depth range. Temperature and salinity data were not obtained in the immediate vicinity.

In approximately two weeks you will be furnished temperature and salinity data from an oceanographic station approximately 50 miles north of Swan Islands. These data are now being processed by the Hydrographic Office and shall be used to supplement the bar-check data. Velocity corrections shall be applied to some soundings in accordance with Circular Letter 28/HHK dated 25 January 1960.

(Signed) H. Arnold Karo

H. Arnold Karo Rear Admiral, CAGE Birestor

Dr. Harris B. Stempt, Jr. Gnief, Hostical Chart Branch, Chart Mivision 是是一个时间,我们就是我们的一个时间,我们就是一个时间,我们们就是一个时间,我们们们的一个时间,也可以是一个时间的一个时间,也可以是一个时间的一个时间,也可以是一个时间的一个时间,也可以是一个时间,

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CCEAN

APPLIC LOG SHICKT .

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Chlorinity and Salinity 'ermination
by Conductivit,

MATT-SPEC PAGE TARS...

U.S. MAVY HYDROGRAPHIC OFFICE WASHINGTON 25, D.C.

STATION AND THERMOMETER [
For use with H.O. Pub. No.

FORM 197 (3-16-55)

Survey No. H-851	.5	Į.	aious su	S diads	local still	Mod	, Jide of	McHall	A STATE OF	ș /
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H-8515 Informal Review (Preliminary)

This is a reconnaissance survey composed of trackline hydrography in the area surrounding Swan Islands and extending about 60 nautical miles southwast of the islands.

A tablemount with least depths of 15 fathoms of water was discovered about 49 nautical miles 128° true from Swan Islands. About 80 miles of trackline was run in this area to determine the extent of the shoal. It appears to be about 5 x 12 nautical miles in size, the latter dimension running in an east-west direction.

Offshore of Swan Islands, the tracklines radiate from the limits of the inshore survey H-8516 (1960) out beyond the 1000-fathom curve, except to the west-southwest of the islands where the 1000-fathom curve falls outside the survey limits. The bottom drops rapidly to the north and south of the islands from 0 to 1000 fathoms in 5 nautical miles. Conversely, it slopes gradually to 1000 fathoms in 15 nautical miles east of the islands and to only 700 fathoms in 20 miles at the western limit of the survey. The most significant feature found in the vicinity of the islands was the 23-fm. shoal at Lat. 17°22.5', Long. 84°08.2'.

The shoreline originates with advance manuscript T-10890 of 1960. The geographic datum is N.A. 1927 Provisional. (See review H-8516 for details)

The hydrography near Swan Islands was controlled by visual fixes. The remainder of the survey was controlled primarily by dead reckoning.

The survey joins H-8516 (1960), a 1:10,000 scale inshore survey at Swan Islands. The junctional soundings are in good agreement but were not transferred because of the scale difference and because soundings on this survey are uncorrected for velocity and tide.

The field records were not as complete as they might have been:

- (1) The revolution counter readings were generally omitted while on visual control, hence, no good distance factors could be derived.
- (2) Revolution counter readings were in some cases omitted on dead reckoning runs, leaving only time as an indication of distance.
- (3) The rate of speed was seldom mentioned and then only in general terms.

H-8515 Informal Review (Preliminary) - 2

- (4) Weather conditions were seldom noted, and never in detail. In one case the wind was noted as "40 miles per hour", but no direction was given.
- (5) No bottom samples on the newly discovered tablemount were recorded in the sounding volumes.

This area falls within the province of Navy Hydrographic Office charting and is not covered by charts of the Coast and Geodetic Survey.

Reviewed by D. R. Engle - 3-17-61

Inspected by R. H. Carstens - 3-20-61

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. .8515...

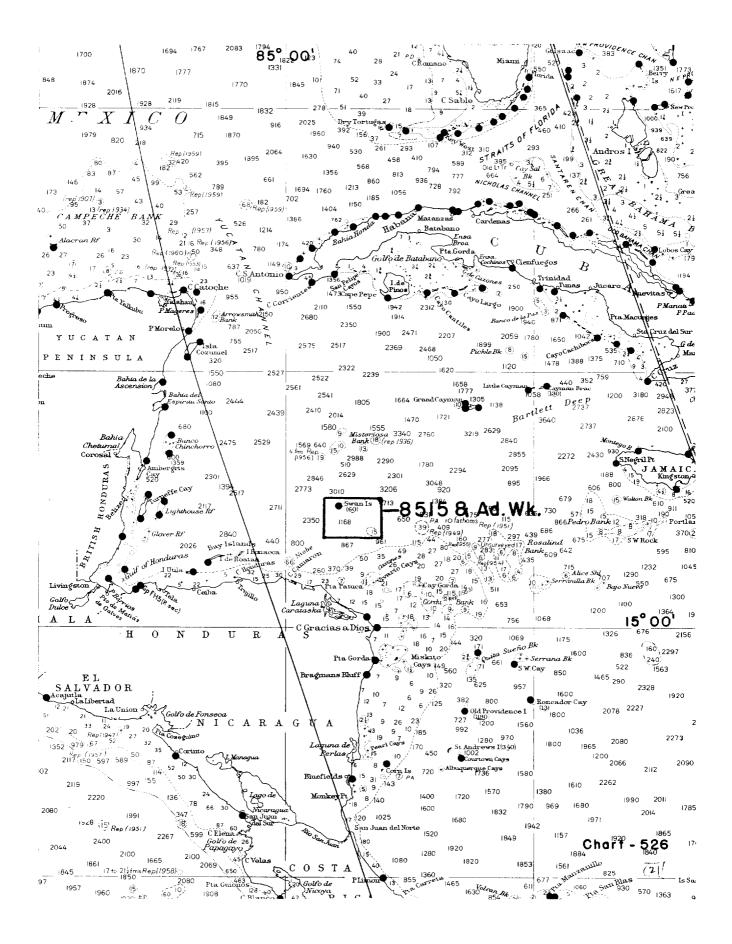
Records accompanying survey:	Smooth she	ets	· • • • • • • • • • • • • • • • • • • •
boat sheets .1; sounding vols;	wire drag	vols.	• • • • • • •
Descriptive Reports . 1; graphic rec			
special reports, etc. All records pertai			
. # . H - 8521. 1 - Overlay tracing		• • • • • •	
The following statistics will be submitted vrapher's report on the sheet:	with the c		
Number of positions on sheet		278	
Number of positions checked		•••••	
Number of positions revised		• • • • •	
Number of soundings revised (refers to depth only)		•••••	
Number of soundings erroneously spaced		• • • • •	
Number of signals erroneously plotted or transferred		• • • • •	
Topographic details	Time	• • • • •	
Junctions	Time	• • • • •	
Verification of soundings from graphic record	Time		ı
Special adjustments	Time	•••••	ı
Verification by Total ti	me	Date .	
Preliminary Reviewed by A. R. Eungle T:	ime 16.47.5.	Date :	3-20-6/

NAUTICAL CHARTS BRANCH

SURVEY NO. <u>H-8515</u>

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
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			Before After Verification and Review
			Before After Verification and Review



PROJECT REPORT

to accompany

PROJECT AMC-9-67 TRACKLINE SURVEY--Explorer Bank

June 1967

USC&GSS _cARTHUR (CSS-30) LCDR R.L. Newsom, Cmdg.

This is additional work and is plotted on 4-8515

PROJECT REPORT

to accompany H-8515 additional work

PROJECT AMC-9-67 TRACKLINE (EXPLORER BANK--Caribbean Sea)

6-10 June 1967

USC&GSS McARTHUR

LCDR Ronald L. Newsom

CHIEF OF PARTY

A. PROJECT

This project was accomplished under Instructions—Special Project AMC-9-67 EXPLORER BANK--Caribbean Sea dated 26 May 1967. The project consists of deep-sea sounding lines and towed magnetometer data obtained during a trackline run from Jamaica westward to EXPLORER BANK (vicinity Swan Island), then southeastward to the Canal Zone.

BY SOUNDINGS

Soundings under 100 fathoms were obtained on the McARTHUR's DE-723 "Survey Fathometer," Serial No. 915. Initial on the fathometer was set at 2 fathoms, which closely corresponds to the ship's transducer draft of 12 feet. Soundings on the DE-723 run from Position #23 to Position #63, which covers the top of EXPLORER BANK, and from Position #89 to Position #90, at the Canal Zone end of the trackline.

Soundings over 100 fathoms were obtained on McARTHUR's "Precision Fathometer Recorder" Model 193, Serial No. 10. Initial was set at zero fathoms on this recorder. (Sign not corrected for draft)

No echo sounding corrections have been determined for either the DE-723 or the PFR 193. All soundings are in fathoms.

Magnetic values were obtained using a Varian "Towed Proton Magnetometer" Serial No. 57.

1967 additional work in red with green position numbers.

C. BOATSHEET

A smooth plot of the trackline was drafted by McARTHUR's navigator on two OSS sheets. This smooth plot covers the trackline from EXPLORER BANK to the Canal Zone. A navigation plot of the trackline from Jamaica to EXPLORER BANK was plotted on a tracing paper overlay to H.O. Chart 373. These two navigation plots have not been verified, but it is urged that no changes be made in the trackline on the basis of office review of the navigation data. Considering the poor quality of the horizontal control (see section D), the McARTHUR's navigator is in the best position to judge the plotted ship's track. Positions are probably accurate to about 2 miles.

D. CONTROL

The trackline was controlled entirely by celestial observations; no electronic navigation was possible as loran coverage is nonexistent in the western Caribbean. One visual fix was obtained on the morning of 9 June, as the ship passed Isla de Providencia, and another at the Canal Zone endo of the trackline.

Overcast skies hindered celestial navigation to the point that only 5 astronomic fixes were obtained to control 4 days of trackline.

E. STATISTICS

F. MISCELLANEOUS

Towed proton magnetometer observations were automatically logged by a Friden "Flexowriter" on a punched paper tape and on a paper printout. The raw punched tape was relogged by ship's officers to eliminate errors and gaps in the data. The "smooth" punched-tape and printout should be used when processing the geomagnetic records; the raw punched tape/printout have been forwarded with survey records. Magnetometer observations are in accordance with "General Instructions for Towed Proton Magnetometer Observations at Sea," dated January 1965.

G. RECOMMENDATIONS

It is recommended that the deep-sea sounding line fathograms and navigation plots be forwarded to the U.S. Navy Oceanographic Office for plotting on H.O. Charts 373, 347, 394, and 945.

Athur P. Sibold LTJG--USESSA

Approved & Forwarded:

Ronald L. Herosom

Ronald L. Newsom LCDR--USESSA

Commanding Officer

2 OSS sheets

1 H.O. Chart 373 w/overlay

PFR 193 and DE-723 Fathograms

DR Abstracts

Celestial Navigation Computations

Raw Magnetometer Punched-Tape & Printout (original records)

"Smooth" magnetometer Punched-Tape & Printout (for use in automated processing)

Smooth Plotter's notes

Magnetometer Strip Chart

Magnetometer Log

H-8515 Additional Work of 1967

Informal Review

Ship McARTHUR

This is a trackline survey made for the purpose of obtaining additional development of Explorer Bank, a tablemount discovered and partially developed by the EXPLORER in 1960 (H-8515)

It was necessary to make adjustments to effect agreement between the 1960 work and the present additional work. The development on both surveys was controlled primarily by dead reckoning. However, the prior development was tied into Swan Island visual control by three lines, and all crossings within that development were in good agreement. Conversely, the present additional development could not be tied into any firm fixes, nor were the crossings on the smooth plot in satisfactory agreement. The prior development was, therefore, given precedence and the present additional work was adjusted accordingly.

Only those soundings in the development were inked (pos. 1 through 37).

Soundings are not corrected for velocity, in accordance with project instructions.

Copy of the registered survey H-8515 (1960) was not used as a boatsheet for the additional work as specified in the project instructions. Consequently, the disagreement between the prior and present work was not noted prior to office review.

No sounding volumes or printouts were received from the field.

This survey area falls within the province of the Naval Oceanographic Office charting and is not covered by charts of the Coast and Geodetic Survey.

Reviewed by D. R. Engle - 1/11/68

Inspected by R. H. Carstens

FORM C&GS-946 (REV. 11-65) (PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION COAST AND GEODETIC SURVEY NAUTICAL CHART DIVISION

HYDROGRAPHIC SURVEY STATISTICS HYDROGRAPHIC SURVEY NO. 8515 Ad. Wk.

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION AMO			DUNT	NT RECORD DESCRIPTION		
SMOOTH SHEET DESCRIPTIVE REPORT 1			BOAT	3		
			OVER			
DESCRIPTION	DEPTH RECORDS	HORIZ, CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS SOURCE DOCUMENTS
ENVELOPES	4					
CAHIERS						
OLUMES						
BOXES						
T-SHEET PRINTS	(List)					
PECIAL REPOR		OFFICE	PROCESSING A	CTIVITIES		
	The following st	afistics will be su	ibmitted with the	cartographer's repo	rt on the survey UNTS	
PR	OCESSING ACTIV	ITY	PRE- VERIFICATION	VERIFICATION REVIEW		TQTALS
POSITIONS ON SI	HEET					
POSITIONS	CHECKED				37	
POSITIONS	REVISED				3 7	
DEPTH SOUNDIN	GS REVISED				5√	
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NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8515 Ad. Wk.

INSTRUCTIONS

- A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
- 1. Letter all information.
 2. In "Remarks" column cross out words that do not apply.
- der "Comparison with Charte" in the Revi

HART	DATE	CARTOGRAPHER	REMARKS
	•		Full Part Before After Verification Review Inspection Signed Via
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